

Notice of Allowability

Application No.

10/600,235

Examiner

Elias Desta

Applicant(s)

RICHMOND, GARY K.

Art Unit

2857

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to after final amendment filed on January 24, 2005.
2. ☒ The allowed claim(s) is/are 1-21.
3. ☒ The drawings filed on 19 June 2003 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|--|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |

Detailed Action

Abstract

1. The Examiner accepts the amendment to the abstract of the disclosure.

Response to Argument

2. Applicant's arguments, see after final amendment, filed on January 24, 2005, with respect to claims 1 and 10 have been fully considered and are persuasive. The rejection of claims 1-10 and 12-17 has been withdrawn.

Allowance

3. Claims 1-21 are allowed. The following is an examiner's statement of reasons for allowance:

In reference to claims 1 and 10: Hall, Jr. (U.S. Patent 4,349,896) teaches an apparatus that includes:

- An analog sampling array (see Hall, Jr., Fig. 2, signals from receivers 24's), for acquiring from the signal under test (SUT) (or acoustic signals from the wheels) a plurality of temporally offset analog samples during each of the sequence of sample periods (see signals from the receiver in Fig. 2 and Fig. 3, from the output); and
- A plurality of sample processors, such as ADC's, RMS detector, Peak Detector and Convolver (see Hall, Jr., Fig. 5), for identifying logic level

transitions (such as peak detection as noted in column 1, lines 60-68) between respective current and previous samples (the system uses convolution where present and past time reference values are used for accurate time placement of the compression wave, see Cheever, page 5-6).

However, Hall, Jr. does not determine a logic level for each analog samples using a threshold level where an edge bin data structure is generated. Whereas, the claimed invention provide an edge bin data structure that includes identification of the sample associated with logic level transition and estimation of the relative threshold level crossing time of the signal under test (SUT) between successive samples. Further, the pluralities of sample processors are equal in number to the plurality of temporally offset analog samples during each of the sequence of sample periods. The processors are used to identify logic level transitions between respective current and previous samples of the plurality of temporally offset analog samples for determining time of occurrence of the logic level transition.

Citation of pertinent prior art:

Shi et al. (U.S.PAP 2004/0081256) teaches a method of adjusting an analog portion of a receiver based on the coarse DC offset.

Jundi et al. (IEEE Article, 'Sampled Data Analog Signal Processor') teaches a CMOS integrated circuit implementation of a sampled data analog signal processor, which incorporates four-quadrant multiplier as a key component.

Bonsnjakovic et al. (IEEE Article, 'Uniform Sampling of Periodic Signals Using Successive Conversions') teaches a new approach to the generation of uniform sampling signals, which is based on multiple signal conversions.

The remaining claims are dependent upon claims 1 and 10 and contain further limitations.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elias Desta whose telephone number is (571)-272-2214. The examiner can normally be reached on M-Thu (8:30-7:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marc S. Hoff can be reached on (571)-272-2216. The fax phone numbers for the organization where this application or proceeding is assigned are (703)-872-9306 for regular communications and After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571)-272-1750.


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Elias Desta
Examiner
Art Unit 2857

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February 9, 2005


MARC S. HOFF
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800